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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|---------------------|------------------|
| 09/689,228 | 10/11/2000 | Craig H. Barratt | 015685.P019C | 2662 |
| 45222 | 7590 | 09/25/2006 | EXAMINER | |
| ARRAYCOMM/BLAKELY 12400 WILSHIRE BLVD SEVENTH FLOOR LOS ANGELES, CA 90025-1030 | | | GESESSE, TILAHUN | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2618 | |

DATE MAILED: 09/25/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|------------------------|---------------------|--|
| Office Action Summary | Application No. | Applicant(s) | |
| | 09/689,228 | BARRATT ET AL. | |
| | Examiner | Art Unit | |
| | Tilahun B. Gesesse | 2618 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 November 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 40-97 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 40-43, 57-66, 78-83 and 94-97 is/are rejected.
- 7) ☒ Claim(s) 44-56, 67-77 and 84-93 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This is in response to applicant's response filed December 15, 2003, in which claims 1-39 have been deleted and claims 40-97 pending.

Response to Arguments

Applicant's arguments filed December 15, 2003 have been fully considered but they are not persuasive.

On page 12-13, first paragraph of response to previous action, applicant argued that Ottersten does not teach iteratively processing a signal through a plurality of signal processing procedures and sequentially transmitting the plurality of processed signals.

The examiner disagrees. Ottersten teaches multiple channels receive being processed by processor (44 of fig.8) and reprocessed by weight processor (43 of fig.8) and then transmit through antenna array (14 of figs.1 and 5, col. 25, lines 60-col.26, line 10).

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

Claims 40,60 and 78 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential steps, such omission amounting to a gap between the steps. See MPEP § 2172.01. The omitted steps are: the claims recite “generating a desired radiation level at a number of locations within a desired sector”.

It is incomplete to how the sequentially transmitting plurality of processed signals being generates a desired radiation level at a number of location within the desired sector.

Claim Objections

Claims 50-55 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim.

Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

Claim 45 recites transmission characteristics includes o or more signal amplitude and or phase. However, claims 50-55 which depends claim 45, recites the sequence of weight vector designed to provide a desired radiation pattern within the desired sector. Appropriated correction is required.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

2. Claims 40-43, 57-66, 78-83, 94-97 are rejected under 35 U.S.C. 102(e) as being anticipated by Ottersten et al (U.S. pat. No. 5,828,658) "**Ottersten**".

As to claims 40, 60, 78, Ottersten discloses a method comprising: processing a signal through a plurality of signal **processing procedures** (column 15, line 37-column 16, line 23 and figure 5) to generate a plurality of processed signals (column 16, lines 14-30 and figure 5) and sequentially transmitting the plurality of processed signals through a coupled antenna array (column 16, lines 14-30, column 24 lines 29-41 and figures 1 and 5), generating a desired radiation level at a number of locations within a desired sector (column 16 lines 38-48 and figures 1 and 11). Ottersten discloses

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iteratively processing signal is transmitted through plurality of antennas (column 13, line 55-column 14 line 7 and figure 8). Ottersten further teaches multiple channels receive being processed by processor (44 of fig.8) and reprocessed by weight processor (43 of fig.8) and then transmit through antenna array (14 of figs.1 and 5, col. 25, lines 60-col.26, line 10).

As to claim 41,96-97, Ottersten discloses the signal is transmitted using a CDMA protocol (column 13, lines 40-48).

As to claims 42,65 Ottersten discloses the desirable radiation level is a non-null level (column 18 lines 36-49 and col.26, 54-col. 27, line 25 and fig.11).

Claims 43,66,83, Ottersten teaches a range of azimuths up to a complete range of azimuth of the antenna array, (see column 26, lines 54-column27, line26 and fig.11).

Claims 57,94,95, the processor element develop a plurality of signal processing procedures communicate with the plurality of antenna array (14) (see figures 1,5, 8, col. 18, line 35 through col.19, 40).

Claims 58-59, Ottersten teaches storage medium comprising content executed by an accessing machine (see col. 12, lines 54-60).

claims 61,79, Ottersten discloses the processing elements are comprised of one or more a DSP (column 13 lines 55-68 and figure 8).

claims 62, 80, Ottersten discloses a transceiver, coupled with antenna array and the processors (figures 1, 5, 8 and col. 18, line 35 through col.19, 40).

Claims 63 81, Ottersten teaches the processor element are integrated within the transceiver (figures 1, 5, 8 and col. 18, line 35 through col.19, 40).

Claims 64,82, Ottersten teaches at least one processor element for each antenna within the antenna array figures 1, 5, 8, col. 18, line 35 through col.19, 40).

Allowable Subject Matter

5. Claims 44-56, 67-77,84-93, are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: the prior art does not disclose the orthogonal weight vectors from one or more rows or columns of the complex valued Walsh-Hadamard matrix and a sequence of elements are basis vectors of a Fourier transform.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tilahun B Gesesse whose telephone number is 571-272-7879. The examiner can normally be reached on flexible schedule.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Urban can be reached on 571-272-7899.

The Central FAX Number is 571-273-8300. For patent related correspondence, hand carry deliveries must be made to the Customer Service Window (now located at the Randolph Building, 401 Dulany Street, Alexandria, VA 22314), and facsimile transmissions must be sent to the Central FAX number,


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unless an exception applies.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TG

9/14/06


TILAHUN GESESSE
PRIMARY EXAMINER